L 13366-63
ACCESSION NR: AP3003300

dielectric properties equal to those of polystyrole. However, they possess higher thermal stability (112-125C) and a high electric rigidity (34-37 kv/mm). These factors distinguish them not only from polystyrole, but also from the polymers of chloro-derivatives of styrole. The stability of dielectric properties of the polymers have been established for a wide temperature interval of 20 to 140C. The molecular weight was determined by the osmotic method. "The authors are grateful to L. N. Veselovskaya for her determination of molecular weights." Orig. art. has: 3 tables.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: MA

NO REF SOV: 008

OTHER: 006

Card 2/2

GOLUBEVA, A.V.; TOLSTIKOVA, Z.D.; SIVOGRAKOVA, K.A.; BEZBORODKO, G.L.

Synthesis and polymerization of styrene derivatives. Synthesis and polymerization of methyl derivatives of styrene. Plast.massy no.7:8-9 '63. (MIRA 16:8)

(Styrene) (Polymerization)

ACCESSION NR: AT4010225 S/3056/63/000/000/0060/0063

AUTHOR: Kurpakov, Yu. A.; Tolstobrov, B. Ya.

TITLE: The accuracy of wind velocity measurements by a photoelectric anemograph from a high tower

SOURCE: Issledovaniye nizhnego 300-metrovogo sloya atmosfery*. Moscow, 1963, 60-63

TOPIC TAGS: meteorology, wind velocity, wind velocity measurement, anemograph, photoelectric anemograph, electromechanical contact anemograph, anemometer

ABSTRACT: A total of 886 10-minute series of observations of wind velocity, made at 2 separate locations at different times by means of a photoelectric anemograph, were compared with similar records from an electromechanical contact anemograph in order to permit a comparative evaluation of the two instruments. Graphs are presented showing the distribution of error in the two cases and the relationship between error and wind velocity. The results showed that the accuracy of the new photoelectric anemograph is ± (0.5 meters/sec. + 3% of the measured velocity) at wind velocities below 3 m/sec. and ± 2% at higher wind velocities, compared to ± (0.5 m/sec. + 5%) and ± 3%, respectively, for the con-

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ACCESSION NR: AT4010225

tact anemograph. The deviation between the 2 sets of measurements did not exceed 1.5% when values were averaged every 10 minutes, and the shift in calibration of the photoelectric anemograph over the course of a year did not exceed 5%. For this reason, a single average calibration curve could be used, considerably facilitating the processing of experimental data. "F. Ya Klinov and V. V. Poltavskiy took part in the studies of the accuracy of the measurements of wind velocity by the photoelectric anemograph." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 20Feb64	ENCL: 00
SUB CODE: AS, SD	NO REF SOV: 004	OTHER: 000

Card 2/2

KACHURIN, L.G.; TOLSTOBROV, B.Ya.; YALYNYCHEV, N.S.

Stationary photoelectronic anemogradiograph with an automatic digital device for averaging the results of measurements. Trudy Len. gidromet. inst. no.15:137-144 '63.
(MIRA 17:1)

TOLSTOBROV, B.Ya.

Installation for automatic recording of the vertical profile of wind. Trudy Len. gidromet. inst. no.15:153-160 '63.
(MIRA 17:1)

KACHURIN, L.G.; TOLSTOBROV, B.Ya.; USHAKOV, V.M.; YALYNYCHEV, N.S.

Stationary automatically self-balancing thermogradiograph.
Trudy Len. gidromet. inst. no.15:161-170 '63.

Unbalanced field thermogradiograph. Ibid.:171-179
(MIRA 17:1)

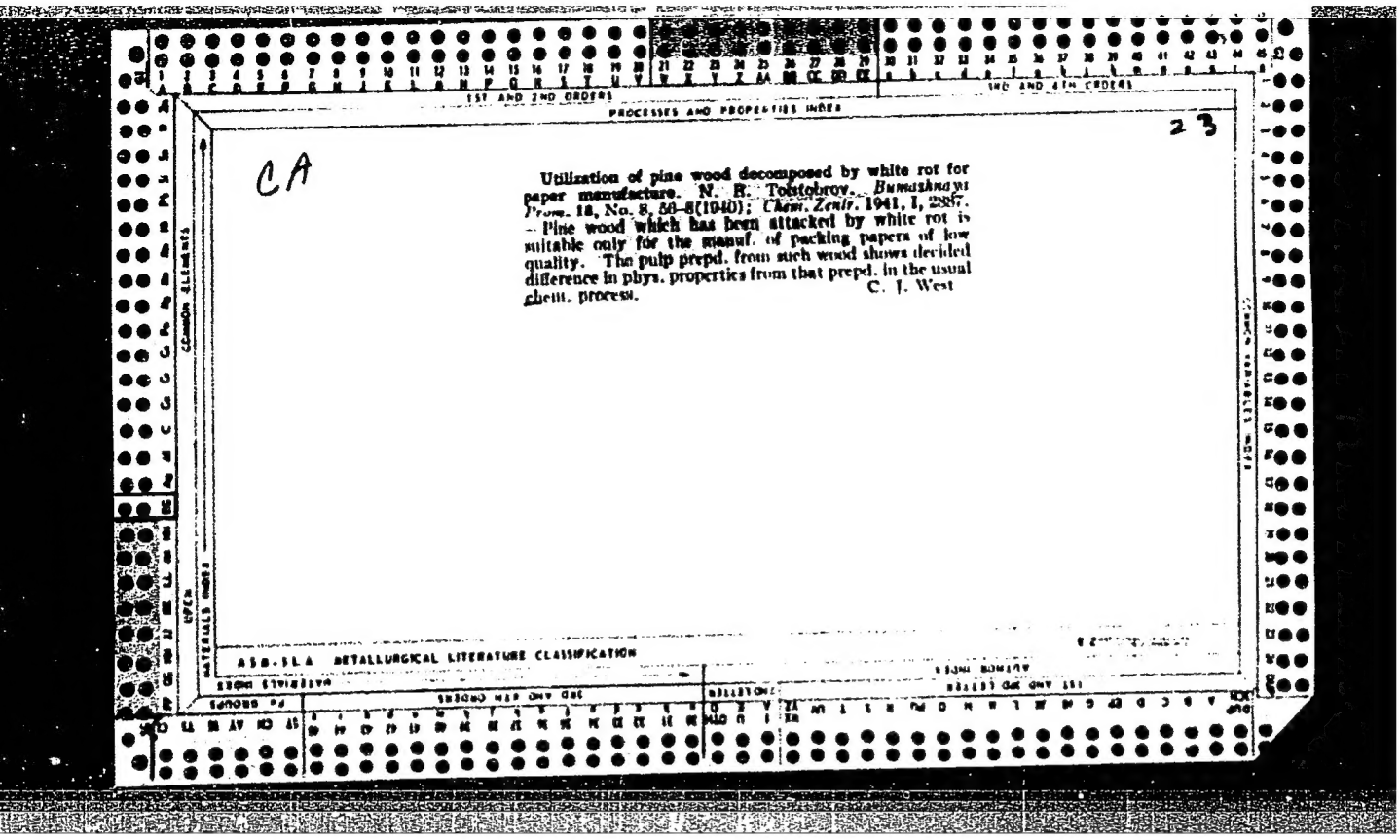
TOLSTOBROV, B.Ya.

Automatic differential balance graph. Trudy Len. gidromet. inst. no.15:180-186 '63. (MIRA 17:1)

TOLSTOBROV, D.F., inzh.

Practice in inspection work. Bezop.truda v prom. 4 no.10:28-30 O '60. (MIRA 13:11)

1. Nachal'nik Upravleniya Kuznetskogo okruga Gosgortekhnadzora RSFSR.
(Kuznetsk Basin—Mine inspection)



CA

23

Utilization of pine wood decomposed by white rot for paper manufacture. N. R. Tolstobrov. *Bumazhnaya Prom.* 18, No. 8, 58–8(1940); *Chem. Zentr.* 1941, I, 2887. — Pine wood which has been attacked by white rot is suitable only for the manuf. of packing papers of low quality. The pulp prepd. from such wood shows decided difference in phys. properties from that prepd. in the usual chem. process.

C. J. West

TOLSTOBROV, V.

Transportation. Grazhd.av. 15 no.10:39 O '58. (MIRA 11:11)
(Transportation, Automotive)

SOV/84-58-10-52/54

AUTHOR: [redacted]

TITLE: Transportation Shortage (Dela dorozhnyye ....)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 10, p. 39 (USSR)

ABSTRACT: The author complains that since his aviation unit, formerly stationed at Yakutsk, was transferred elsewhere, the personnel still residing in Yakutsk (two-thirds of the force) is unable to obtain adequate transportation to work by bus. There is only one bus seating

Card 1/1

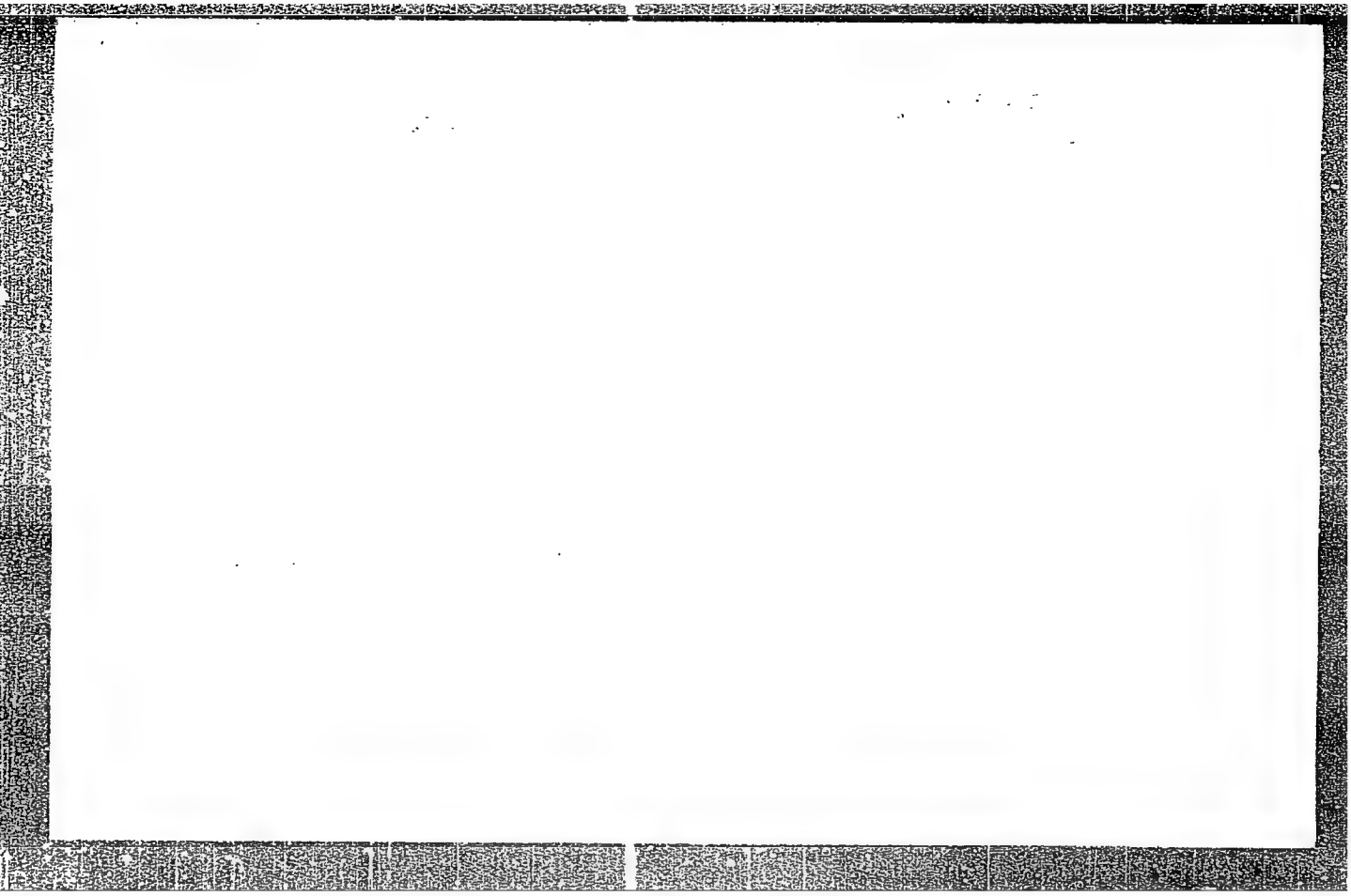
VASSERMAN, I.M.; YEVDOKIMOVA, M.I.; MARAMZIN, A.I.; MILOSLAVSKIY, A.S.; TOLSTOGUZOV, A.D.; FOMINA, Ye.A.

Continuous method of precipitating basic nickel carbonate with complex automation of the process. TSvet. met. 37 no.12: 25-31 D '64 (MIRA 18:2)

TOLSTOGUZOV, N.V.

Laboratory investigation of silicon reduction from liquid melts. Izv.vys.ucheb.zav.; chern.met. 8 no.6:68-71 '65.
(MIRA 18:8)

1. Sibirskiy metallurgicheskiy institut.



L 13046-63 EPR/EWP(j)/EPF(c)/ZAT(m)/BDS/ES(v) AFFTC/ASD/SSD
Ps-4/Pr-4/Ps-4/Pt-4 WW/MW

ACCESSION NR: AP3003306 S/0191/63/000/007/0024/0028

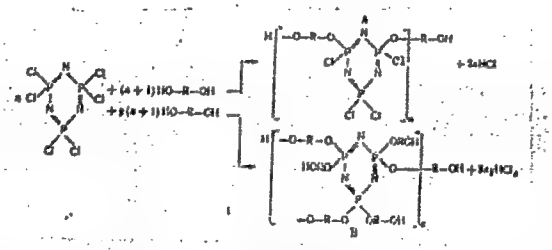
AUTHOR: Zhivukhin, S. M.; Tolstogusov, V. B.; Kireyev, V. V.

TITLE: Synthesis of polymeric polydioxyarilenephosphonitrilates

SOURCE: Plasticheskiye massy, no. 7, 1963, 24-28

TOPIC TAGS: polyphosphonitrile chloride, alkoxyphosphonitrile chloride, alkoxyphosphonitrilate, polydioxyarilenephosphonitrilate

ABSTRACT: Hydrolytically stable polymers of types A and B,



with alternating phosphonitrile and oxyaromatic groups in the backbone have been

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ACCESSION NR: AP3003306

synthesized by the following methods: 1) Condensation of phosphonitrile chloride (PNC) trimer or oily oligomers with dihydric phenols (4,4'-isopropylidenediphenol, resorcinol, or hydroquinone). The reaction with the trimer proceeds at a high rate in high-boiling solvents (e.g., nitrobenzene), at 200C or higher under dry nitrogen, or in inert solvents in the presence of tertiary amines (quinoline, pyridine) at 130C. The oligomers react at 130C in chlorobenzene solution. Polymers of types A and B are formed simultaneously in ratios which depend on the synthesis conditions (concentration, starting-material ratio, and reaction time). 2) Condensation of PNC trimer with diatomic phenolates of the dihydric phenols. The reaction proceeds at a high rate in inert media at 130C and yields mainly polymers of type B. 3) Transesterification of alkoxyphosphonitrile chlorides or alkoxyphosphonitrilate trimers with dihydric phenols, yielding products of type A or B. Both types are heat- and fire-resistant and hydrolytically stable. Polymers of type A are linear low-molecular (800—1000) products soluble in most organic solvents and curable at 200C or higher. They can be used in varnish coatings and glass-reinforced plastics. Polymers of type B are branched or cross-linked, depending on the synthesis conditions. They are fusible, and insoluble in aromatic hydrocarbons, but at a certain stage dissolve in polar solvents; they can be cured with paraformaldehyde or hexamethylenetetramine. Articles

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ACCESSION NR: AP3003306

made with polymers of type B exhibit good mechanical properties but poor elasticity and adhesion to metals. The polymers can be used to make molded articles and glass-reinforced plastics. The presence of functional groups (hydroxyl, alkoxy, chlorine atoms in phosphonitrile groups) makes it possible to improve the adhesion and mechanical properties of the synthesized polymers by modification with epoxy (ED-5, ED-6, E-40) or polyamide-548 resins. In turn, the heat and fire resistance of other polymers can be improved by modification with polymers of type A and B. Orig. art. has: 3 formulas.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 003

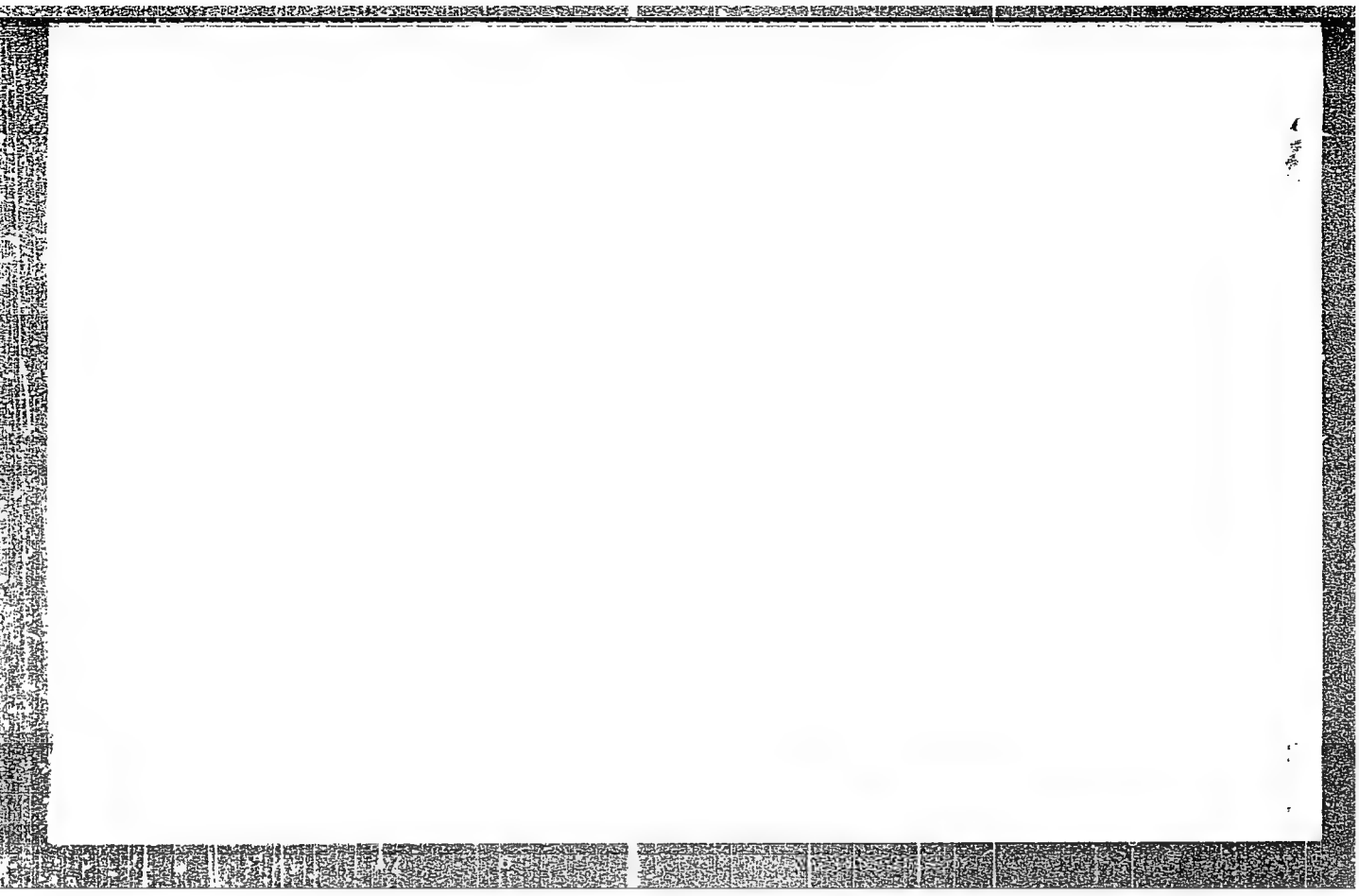
Card 3/3

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.; BELYKH, S.I.

Reaction of phosphonitrile chloride with diphenylsilanediol. Zhur.neorg. khim. 9 no.1:134-139 Ja '64. (MIRA 17:2)

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.; KIREYEV, V.V.

Synthesis of polymeric polydihydroxyarylene phosphonitrilates.
Plast.massy no.7:24-28 '63. (MIRA 16:8)
(Phosphonitrile chloride) (Phenols)



129-2-6/10

AUTHOR: Tolstoguzov, N.V., Candidate of Technical Sciences and Kramarov, A.D., Dr. of Technical Sciences, Prof.

TITLE: The Effect of Phosphorus and Manganese on the Temper Brittleness of Chromium-Nickel Steel. (Vliyaniye fosfora i margantsa na otpusknuyu khrupkost' khromonikelevoy stali).

PERIODICAL: Metallovedenie i obradotka metallov, 1957, No. 2, pp. 32-39 (U.S.S.R.)

ABSTRACT: The authors studied the effect of phosphorus and manganese on the susceptibility of chromium-nickel steel to temper brittleness. Twenty ingots weighing about 18 kg each were produced in a 100 kg arc furnace, their respective chemical compositions being given in Table 1, p. 32. To eliminate the effect of technological factors, the ingots were cast from the same melt with P contents of up to 0.035%; the metal from the furnace was subsequently poured into two ladles and approximately 0.1% Fe-P powder was poured into one of the ladles. After solidification, the ingots were cooled in sand, heated to 1200-1250°C and then used for forging blanks of 60 x 60 mm cross section. Subsequently,

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TITLE: The Effect of Phosphorus and Manganese on the Temper Brittleness of Chromium-Nickel Steel. (Vliyaniye fosfora i margantsa na otpusknuyu khrupkost' khromonikelevoy stali).

20 x 20 mm rods were forged, from which notch impact specimens were made. For determining the influence of P and Mn on the development of brittleness during slow cooling, the blanks of twelve melts were hardened in oil after holding for one hour at 840° C and then tempered at 600° C for two hours. After the tempering, a part of the blanks were cooled in water, while the others were cooled in the furnace at a cooling speed of 20° C/hr. The results of the impact tests are given in Table 2; Table 3 contains data on the effect of phosphorus on the susceptibility to temper brittleness of Mo containing Cr-Ni Steel. Table 4 contains data on the tendency to temper brittleness of Mo containing steels on the basis of tests carried out at -60° C. Fig. 1 is the graph expressing the effect of phosphorus on the tendency to temper brittleness of steel of various manganese contents. Fig. 2 shows the effect of Mn on the tendency to temper brittleness of steel containing about 0.03% P. Fig. 3

Card 2/6

TITLE: The Effect of Phosphorus and Manganese on the Temper Brittleness of Chromium-Nickel Steel. (Vliyaniye fosfora i margantsa na otpusknuyu khrupkost' khromonikelevoy stali).

shows the effect of P on the tendency to temper brittleness of steel. Fig. 4 shows the effect of the tempering temperature on the impact strength of the tested steels. Fig. 5 shows the change of the minimum tempering temperature as a function of the P and Mn content in the steel. Fig. 6 shows the influence of long duration holding at 500°C on the impact strength of heat treated steel. Fig. 7 shows the influence of the test temperature on the impact strength. The authors investigated the influence of P and Mn on the development of temper brittleness in slow cooling, the influence of P and Mn during tempering of steel in the brittleness zone, the tendency to develop brittleness in steel with low contents of P and Mn and they also investigated the causes of temper brittleness. As regards to the causes of temper brittleness, the authors only review existing views; they do not possess direct experimental data which would permit answering the question of how the P participates in making the steel brittle, i.e. whether by separating out along the

TITLE: The Effect of Phosphorus and Manganese on the Temper Brittleness of Chromium-Nickel Steel. (Vliyaniye fosfora i margantsa na otpusknuyu khrupkost' khromonikelevoy stali).

boundaries of the austenitic range, by forming finely dispersed phosphides or by enrichment of the boundary zones. It is concluded that even in steels with a low content of Cr-Ni, P has a strong influence on the tendency to develop temper brittleness. The influence of P increases sharply with an increasing manganese content. Manganese increases rapidly the tendency of Cr-Ni steel to develop temper brittleness with high P contents (above 0.03%); with low P contents (below 0.01%) its influence is considerably weakened. Increase in the P content (0.01 to 0.3% or of the Mn content from 0.1-0.2 to 0.5-0.7%) increases the temperature range in which temper brittleness develops. Reduction of the contents of P and Mn in steel permits reduction of the tempering temperature during heat treatment and thereby to improve the combination of mechanical properties. Steel with a low content of P and Mn does not show a tendency to temper brittleness at ordinary testing temperatures; at reduced

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TITLE: The Effect of Phosphorus and Manganese on the Temper Brittleness of Chromium-Nickel Steel. (Vliyaniye fosfora i margantsa na otpusknuyu khrupkost' khromonikelevoy stali).

(below freezing point) test temperatures its tendency to temper brittleness does not exceed the temper brittleness of ordinary Cr-Ni-Mo steels. To save Mo it is advisable to establish a sliding scale related to the contents of Mo as a function of the P content. Aparently P participated directly in processes which cause the development to temper brittleness. This appears to be the case as a result of the effect of low P contents on the coarsening of steel, as a result of the dependence of Mo and Mn on the P content in the steel and as a result of the change in the temperature range of the brittleness as a function of the P content.

The text contains 4 tables, and 7 sets of graphs. There are 15 references, of which 10 are Slavic.

ASSOCIATION: Siberian Metallurgical Institute (Sibirskiy metallurgichesky institut)

Card 1/6

TOLSTOGUZOV, N.V.

Silicon reduction in the smelting of manganese alloys in a continuous process. Izv.vys.ucheb.zav.; chern. met. 8 no.4:83-90 '65. (MIRA 18:4)

1. Sibirskiy metallurgicheskiy institut.

EDNERAL, Fedor Prokop'yevich; FILIPPOV, Anatoliy Fedorovich; KRAMAROV, A.D., prof., doktor tekhn. nauk, retsenzent; TOLSTOGUZOV, N.V., dots., kand. tekhn. nauk, retsenzent; LEVIN, A.M., retsenzent; VISHNYAKOV, A.V., retsenzent; KATS, L.N., retsenzent; SHVEDOV, L.V., red.; ROZENTSVEYG, Ya.D., red. izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Calculations on the electrometallurgy of steel and ferroalloys]Raschety po elektrometallurgii stali i ferrosplavov. Izd.2., ispr. i dop. Moskva, Metallurgizdat, 1962. 230 p. (MIRA 15:12)

(Steel--Electrometallurgy)
(Iron alloys--Electrometallurgy)

KRAMAROV, A.D.; TOLSTOGUZOV, N.V.; ZARVIN, Ye.Ya.; TIMMERMAN, V.P.; LEVIN, A.M.; GUROV, A.K.

Making manganese alloys from Usa deposit manganese ores. Izv. vys. ucheb. zav.; chern. met. no.12:46-54 '60. (MIRA 14:1)

1. Sibirskiy metallurgicheskiy institut.
(Usa Valley--Manganese ores)
(Manganese alloys--Metallurgy)

TOLSTOCU ZOV, N.V.

Reduction of iron, phosphorus, and manganese from manganese slags. Izv. vys. ucheb. zav.; chern. met. 8 no.2:68-72 '65. (MIRA 18:2)

ZARVIN, Ye.Ya.; KRAMAROV, A.D.; TOLSTOGUZOV, N.V.; GUROV, A.K.; LEVIN, A.M.; TIMMERMAN, V.P.

Use of silicomanganese made of Usa ores for the reduction of steel. Izv. vys. ucheb. zav.; chern. met. no.12:55-62 '60. (MIRA 14:1)

1. Sibirskiy metallurgicheskiy institut.
(Usa Valley--Ore deposits)
(Silicon-manganese alloys)

TOLSTOGUZOV, N. V., KONOVALOV, K. N., GLAZOV, A. N., TEDER, L. I., DANILOV, P. M., SHIRINKIN, E. N., and GUDAYEVICH, M. G.

"Vacuum Treatment of the MX 15-Steel and Commerical Edxperience of the Vacuum Transformer Treatment."

paper presented at Second Symposium on the Application of Vacuum T Metallurgy.
1-6 July 1958, Moscow

SOV/137-58-9-19963

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 268 (USSR)

AUTHORS: Tolstoguzov, N.V., Kramarov, A.D.

TITLE: On the Nature of Failure in Brittle Steel (O kharaktere razrusheniya khrupkoy stali)

PERIODICAL: V sb.: Metallovedeniye i term. obrabotka. Moscow, Metallurgizdat, 1958, pp 112-121

ABSTRACT: A study is made of the effect of temper brittleness upon the nature of failure of Cr-Ni steel of the following percentage composition: C 0.30-0.43, Cr 1.3-1.5, Ni 2.8-3.34. Etching of fractures for 5 minutes in saturated picric-acid-in-ether solution makes it possible to distinguish differences in grain boundary structure in the brittle and the ductile states. Study of the etchability of the grain and the nature of failure in the specimens showed temper brittleness to be induced by processes occurring on the boundaries of what had been the austenite grain. When temper brittleness has developed, fracture occurs along the grain boundaries, whereas in the ductile condition it is in the grain. 1. Chromium-nickel steel--Failure 2. Hardness--Metallurgical effects 3. Grains (Metallurgy)--Structural analysis F.U. 4. Austenite--Properties

Card 1/1

Tolstoguzov, N.V.

PHASE I BOOK EXPLOITATION SOV/4548

Akademiya nauk SSSR. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali

Primeneniye vakuuma v metallurgii (Use of Vacuum in Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 334 p. Errata slip inserted. 4,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova. Komissiya po fiziko-khimicheskim osnovam proizvodstva stali.

Resp. Ed.: A.M. Samarin, Corresponding Member, Academy of Sciences USSR; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: S.G. Markovich.

PURPOSE: This collection of articles is intended for technical personnel interested in recent studies and developments of vacuum steelmaking practice and equipment.

COVERAGE: The book contains information on steel melting in vacuum induction furnaces, and vacuum arc furnaces, reduction processes in vacuum, and degassing of steel and alloys. The functioning of apparatus and equipment, especially vacuum furnaces and vacuum booster pumps is also analyzed. Personalities are mentioned in connection with some of the articles and will appear in the Table of Contents. Three articles have been translated from English. Some of the

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87646

S/191/60/000/012/005/016
B020/B066

15.9209 2209

AUTHORS: Zhivukhin, S. M., Tolstoguzov, V. B.

TITLE: Phosphonitryl Chloride, Its Synthesis, Properties, and Use. Report No.1. Synthesis of Phosphonitryl Chloride

PERIODICAL: Plasticheskiye massy, 1960, No. 12, pp. 14 - 16

TEXT: This is a survey of publications dealing with phosphonitryl chloride (PNC). It polymerizes to give a rubber-like material - a so-called "inorganic rubber". The course of this polymerization, the properties and the application of this material are described in recent publications and patents. PNC was later on obtained from PCl_5 and NH_4Cl, but in poor yields. Yields can be considerably increased when performing the reaction in an autoclave, or using tetrachloro ethane as solvent, or applying a protective layer of NH_4Cl. In some variants of this method, a 52.6% yield of the trimer and a 25% yield of the tetramer, referred to theoretical yields, could be obtained. By means of the two newest methods suggested in 1957 also high yields are obtained. One of them is based

Card 1/2

87646

Phosphonitryl Chloride, Its Synthesis, Properties, and Use. Report No.1. Synthesis of Phosphonitryl Chloride

S/191/60/000/012/005/016
B020/B066

upon the reaction of NH_4Cl with PCl_5 in tetrachloro ethane in the presence of quinoline as catalyst, and yielded 35 - 40% trimer, 55 - 60% heptamer, and 0 - 5% tetramer and other polymers. The other method bases upon the reaction of a solution of PCl_5 in methylene chloride with liquid ammonia, in which a mixture of the trimer and tetramer and 0 - 5% of other polymers were obtained. The physiological properties of the product are given, the principal features of the separation of the polymer homologs and their purification are briefly described. The analytical methods for the resultant products are briefly described, and the results obtained by the laboratory of the kafedra organicheskikh i elementoorganicheskikh vysokomolekulyarnykh soyedineniy, MKhTI imeni Mendeleyeva (Department of Organic and Elemental-organic High-molecular Compounds of the Moscow Institute of Chemical Technology imeni Mendeleyev) with respect to PNC synthesis and the properties of the resultant reaction products are given. There are 47 references: 1 Soviet, 9 US, 12 German, 23 French, 3 British, and 1 Japanese.

Card 2/2

89990

S/190/61/003/003/006/014
B101/B204

11.2210 also 2209

AUTHORS: Zhivukhin, S. M., Tolstoguzov, V. B., Meytin, Yu. V.

TITLE: Phosphonitryl chloride rubber

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 3, 1961, 414-419

TEXT: The aging of phosphonitryl chloride (PNC) rubber has already been repeatedly investigated, but, as remarked by N. L. Paddock (Ref. 7: Chem. and Ind., 1960, 91-92), it has not yet been fully cleared. It was therefore the purpose of the present work to investigate the aging and the stabilization of PNC rubber. First, the trimer $(PNCl_2)_3$ was synthetized from PCl_5 and NH_4Cl purified by recrystallization and distillation, after which it was polymerized for 6 hr at 320°C. Experiments confirm the fact that HCl is liberated during aging, corresponding to an equation (reaction with the water of moist air with formation of P-O-P cross links) suggested by H. Specker (Ref. 6: Angew. Chem. 65, 299-303, 1953). The infrared spectroscopic analysis of the films of fresh and aged rubber

Card 1/4

Phosphonitryl chloride rubber

applied to KBr by means of a UR-10 spectrograph confirms: 1) The occurrence of a band corresponding to the P-O-P bond during aging. 2) The decrease of the intensity of the P=N band and occurrence of NH bands as a result of destruction. Furthermore, a displacement of the P=N bands with increasing molecular weight from 1340 cm^{-1} (molecular weight 2.10^3) to 1360 cm^{-1} (molecular weight 1.10^6) was observed. Pycnometrically, an increase in specific weight (from 1.77 to 2.02) was found, which takes place within 8 days. By X-ray analysis, this effect could be explained as crystallization. Conforming with the data of the increase in specific weight, a duration of the crystallization of 170 hr was found. The melting point of the crystals was between 30 - 40°C. By weighing, the effect produced by aging upon weight was investigated. With 100% moisture, the increase in weight was 1.4% after 200 hr, and 7.9% after 300 hr. This change in weight, however, depended on the ratio between the cross section of the specimen and its surface. The authors found: $y = (P - P_\tau)/P = -0.111F - 0.794\delta + 1.22$ (4). Here, P is the initial weight, P_τ after τ hr, F the area of the cross section, cm^2, δ the thickness in mm. From this equation it follows that aging is a diffusion process proceeding from

X

Phosphonitryl chloride rubber

the surface. 40 stabilizers were examined and the degree of stabilization K was determined: $K = y_p/(y_p - y_{stab})$, where y_p is the loss in weight of pure rubber according to Eq. (4), and y_{stab} is the loss in weight of stabilized rubber. Table 2 shows the results obtained by means of some stabilizers. There are 5 figures, 2 tables, and 11 references: 1 Soviet-bloc and 10 non-Soviet-bloc. The 1 reference to English-language publication is given in the text of the abstract.

ASSOCIATION: Khimiko-tekhnologicheskiy institut im. D. I. Mendeleyeva (Chemotechnical Institute imeni D. I. Mendeleyev)

SUBMITTED: July 7, 1960

89990

Phosphonitryl chloride rubber

S/190/61/003/003/006/014
B101/B204

Наименование стабилизатора или наполнителя (1)	Количество стабилизатора, % (2)	K	Наименование стабилизатора или наполнителя (1)	Количество стабилизатора, % (2)	K
(3) Силиконовый каучук	4,1	0,98	Полимочевина (9)	6,8	0,89
(4) Стеарат бария	3,7	0,93	Sb_2O_3	5,0	0,90
(5) Стеарат олова	3,9	0,90	Cr_2O_3	43,0	0,89
(6) Ортоборная кислота	7,0	0,90	CuO	40,0	0,81
(7) Стеарат кадмия	2,8	0,89	PbO_2	30,0	0,72
(8) Поливиниловый спирт	8,0	0,89	Sb_2O_3	43,0	0,76

Legend to Table 2: 1) Stabilizer or filler. 2) Quantity of stabilizer. 3) Silicon rubber. 4) Barium stearate. 5) Tin stearate. 6) Ortho-boric acid. 7) Cadmium stearate. 8) Polyvinyl alcohol. 9) Polyurea.

Card 4/4

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.

Phosphonitrile chloride, its preparation, properties, and uses. Report No.3: Practical utilization of phosphonitrile chloride polymers. Plast.massy no.5:26-28 '61. (MIRA 14:4)
(Phosphonitrile chloride)

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.; LEVITSKIY, M.M.

Synthesis of phosphonitrile chloride. Zhur.neorg.khim. 6 no.10: 2414-2416 O '61. (MIRA 14:9)

(Phosphonitrile chloride)

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.

Phosphonitrile chloride, its production, properties, and uses. Report No.2: Chemical properties of phosphonitrile chlorides. Plast.massy no.4:14-17 '61. (MIRA 14:4)
(Phosphonitrile chloride)

TOLSTOGUZOV, V.

"Plastics" by J.Jousset. Reviewed by V.Tolstoguzov. Plast.-massy no.4:79 '62. (MIRA 15:4)

(Plastics) (Jousset, J.)

TOLSTOGUZOV, V.

"Polymeric materials" by C.C.Winding, G.D.Hiatt. Reviewed by V.Tolstoguzov. Plast.massy no.4:79 '62. (MIRA 15:4)
(Polymers) (Winding, C. C.) (Hiatt, G. D.)

S/078/62/007/009/004/007
B144/B101

AUTHORS: Zhivukhin, S. M., Tolstoguzov, V. B., Ivanov, A. I.

TITLE: Reaction of phosphonitrile chlorides with silanols, silanolates, and hexaalkyl disiloxane

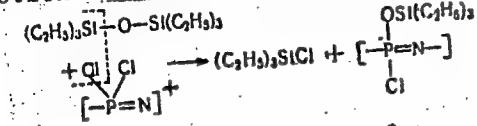
PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 9, 1962,2192-2199

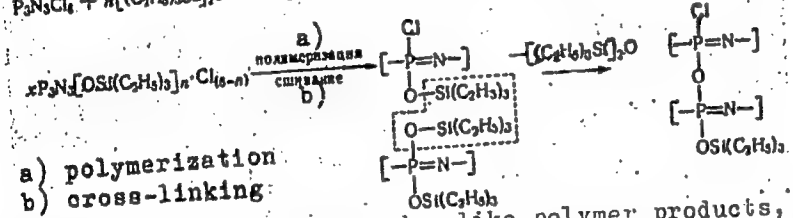
TEXT: Tests with triethyl and triphenyl silanoles and Na silanolates were unsuccessful but proved that $PNCl_2$ attacks the Si-O-Si bond. Hence hexaethyl disiloxane which contains one Si-O-Si bond was made to react at 230°C with $PNCl_2$ trimer (molar ratio 6:1). Substitution was obtained.

Card 1/3

S/078/62/007/009/004/007
B144/B101

Reaction of phosphonitrile chlorides ...





a) polymerization
b) cross-linking

and yielded rubberlike or powder-like polymer products, the latter being non-hydrolizable, having roughly the formula $[PN\{OSi(C_2H_5)_3\}_2]_x \cdot [PON]_y \cdot [PNCl_2]_z$, where x, y, and z are derived from the Si and Cl contents: x depends on the degree of Cl substitution which rises in polymerization between 260 and 300°C with increasing temperature; y is determined by the breaking of siloxy groups and z by the content in nonsubstituted Cl atoms. There are 6 figures and 1 table.

Card 2/3

Reaction of phosphonitrile chlorides ... S/078/62/007/009/004/007
B144/B101

SUBMITTED: December 12, 1961

Card 3/3

34969
S/080/62/035/002/006/022
D235/D302

15.9209

AUTHORS: Zhivukin, S. M., Tolstoguzov, V. B. and Levitskiy, M.M.

TITLE: Certain properties of oily oligomers of phosphonitrile chloride

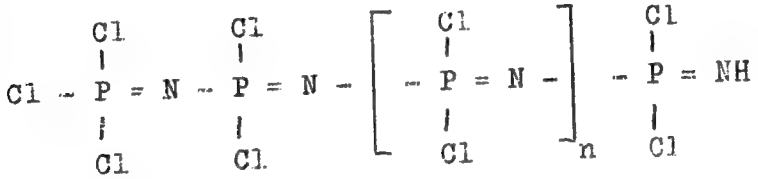
PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 2, 1962, 290-295

TEXT: The composition and structure of oligomers of phosphonitrile chloride and the properties of high molecular polymeric products obtained from them are studied. The oligomers were obtained by reacting PCl_5 with NH_4Cl in a medium of chlorobenzene in the presence of quinoline. The trimer and tetramer were removed from the oligomers by extraction with petroleum ether. The yield of oligomers was 40 - 45% and the composition was within the limits P - 24.96-25.4%, N - 12.01-11.74%, Cl - 59.63.62.5%. The molecular weight was 1170 - 1390 and titration of a fraction of molecular weight 1200 showed a minimum of three polymer homologues. In order to elucidate the composition the infra-red spectrum in the frequency range 400 - 3800

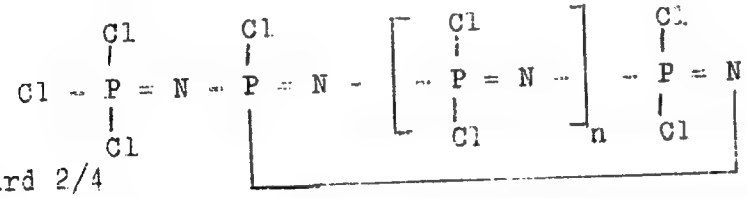
Card 1/4

Certain properties of ...

cm^{-1} was studied. The groups P=N, OH and NH were discovered but not P-H or P-OH. The considered oligomers with a degree of polymerization of 10 to 12 have the following structure:



and a portion of the molecule must have the structure



Card 2/4

The oligomers were subjected to polymerization in a glass ampoule for 4 hours at 192, 210, 226, 245 and 260°C. On increasing the temperature, consistency of the products changed from a brown paste to a dark brown or black resinous material possessing low adhesion to glass. Density of the samples after extraction with chloroform was found to be 1.58 - 1.68 at 20°C. The was no relationship between density and temperature of polymerization. A linear relationship was found between the composition of the soluble fraction and the temperature of polymerization which can be written:

$$\frac{M_{sol.fract.}}{M_{sample}} \times 100 = 175 - 0.57\ t^{o}$$

The authors also studied swelling of the resin and discovered that the degree of swelling decreased with increasing temperature of polymerization. Ageing of the elastomers was considered concluding that the change in weight of the samples during ageing was mainly due to absorption of moisture from the air followed by reaction

with the resin with the elimination of HCl; this hydrolysis takes place more quickly the larger the quantity of oily oligomers contained in the resin. The poly-acid formed changes to the more stable tetracompound. There are 6 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: L. F. Audrieth, R. F. Steedman and A. D. F. Toy, Chem. Rev., 32, 109, 1943; N. L. Paddock, and H. T. Searle, Advances in inorganic chemistry and radiochemistry, 1, 347, 1959; N. L. Paddock, Endeavour., 19, 75, 134, 1960.

SUBMITTED: December 26, 1960

33439
S/064/62/000/001/002/008
B110/B138

15.8180

AUTHORS: Zhivukhin, S. M., Tolstoguzov, V. B.

TITLE: Production of phosphorus nitryl chloride

PERIODICAL: Khimicheskaya promyshlennost', no. 1, 1962, 19 - 23

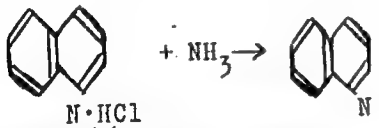
TEXT: A method is developed for the industrial production of phosphorus nitryl chloride according to $nPCl_5 + nNH_4Cl \rightarrow (PNCl_2)_n + 4nHCl + 120$ kcal/mole. The trimer (II) produced in the experiments contained tetramer (I) impurities, was crystalline (m. 108 - 114°C), had a slight odor and almost imperceptible irritant properties. Vapor pressures between 75.2 - 114.9°C and 114.9 - 189.3°C were determined from log P = 11.187 -3979/T and log P = 8.357 - 2880/T, respectively. Heat of vaporization was 13.2 kcal/mole, heat of sublimation 18.2 kcal/mole, and heat of fusion 5.0 kcal/mole. The eutectic mixture II (0.65 - 0.7 molar parts) + I melts at 89.0 - 89.5°C. Best solubility of II is in benzene (55.0 g/100 g), and of I in CCl_4. Molecular weight of II is 340 - 450. It decomposes in moisture, is not corrosive, and can be stored for ever. The resulting

Card 1/

dark yellow-to-brown oily liquid (D_{20} = 2.01; at 60°C, η = 110 cp; $n_D^{14.5}$ = 1.5857; MW = 1172 - 1392; 24.9% P; 59.63% Cl; 11.74% N; mean degree of polymerization: 10 - 12) is a mixture of higher polymer homologs $(PNCl_2)_n$, $n > 4$, soluble in benzene, toluene, xylene, acetone, and insoluble in water, acetic acid, and petroleum ether. The higher homologs have better solubility in benzene than the lower ones. The optimum solvent chlorobenzene (1.65 - 1.75 liters/kg of PCl_5) melts near the optimum boiling point (128 - 130°C) causing violent agitation. The optimum molar ratio of NH_4Cl to PCl_5 is 1.15 - 1.17. Optimum synthesis period is 8 - 12 hrs in the presence of 0.160 - 0.163 moles of quinoline per mole of PCl_5. The trimer yield decreases and the mean polymerization degree increases in 12 hrs. The reaction is at first violent, bulk conversion takes place after 7 - 8 hrs, and then HCl is separated. The starting materials are put into enameled vessel 2 (Fig. 2) with reflux condenser 3. The separated HCl gas is collected in 5, the reaction mixture is cooled to room temperature, and quinoline hydrochloride and the NH_4Cl excess are

Production of phosphorus nitryl...

filtered off at 6. C_6H_5Cl is distilled off in 8 and recycled. In 11, the oily residue is separated into phosphorus nitryl chloride and oil. The crystals are dissolved in petroleum ether, and the saturated solution is passed through filter 16. Partial distillation of the petroleum ether occurs at 18, and the trimer is crystallized in 20. It is centrifuged at 21, and the mother liquid passes into 18 again. The purified trimer (42% related to PCl_5) is separated from the tetramer by fractional vacuum distillation, crystallization, or by CH_3OH. The oil is passed to 22 (Fig. 3), dissolved in benzene, precipitated by petroleum ether, and left standing for 6 hrs. The bottom layer is pure oil, and the top layer is a mixture of solvents containing impurities. It is distilled at 80 - 100°C in 24. The oil yield is 40 - 42%. Quinoline hydrochloride and NH_4Cl from 6 (Fig. 2) are rendered weakly alkaline in 27 (Fig. 4) by 25% NH_4OH:



For extraction, benzene is added by

Card 3/8 4

Production of phosphorus nitryl...

stirring, and the mixture is left standing for 2 - 3 hrs. The solution of quinoline in benzene is passed to 29, dried with KOH for 24 hrs, filtered and distilled in 30. For 1 kg of phosphorus nitryl chloride, 1.96 kg of PCl_5, 0.59 kg of NH_4Cl, and 0.19 kg of quinoline are used.

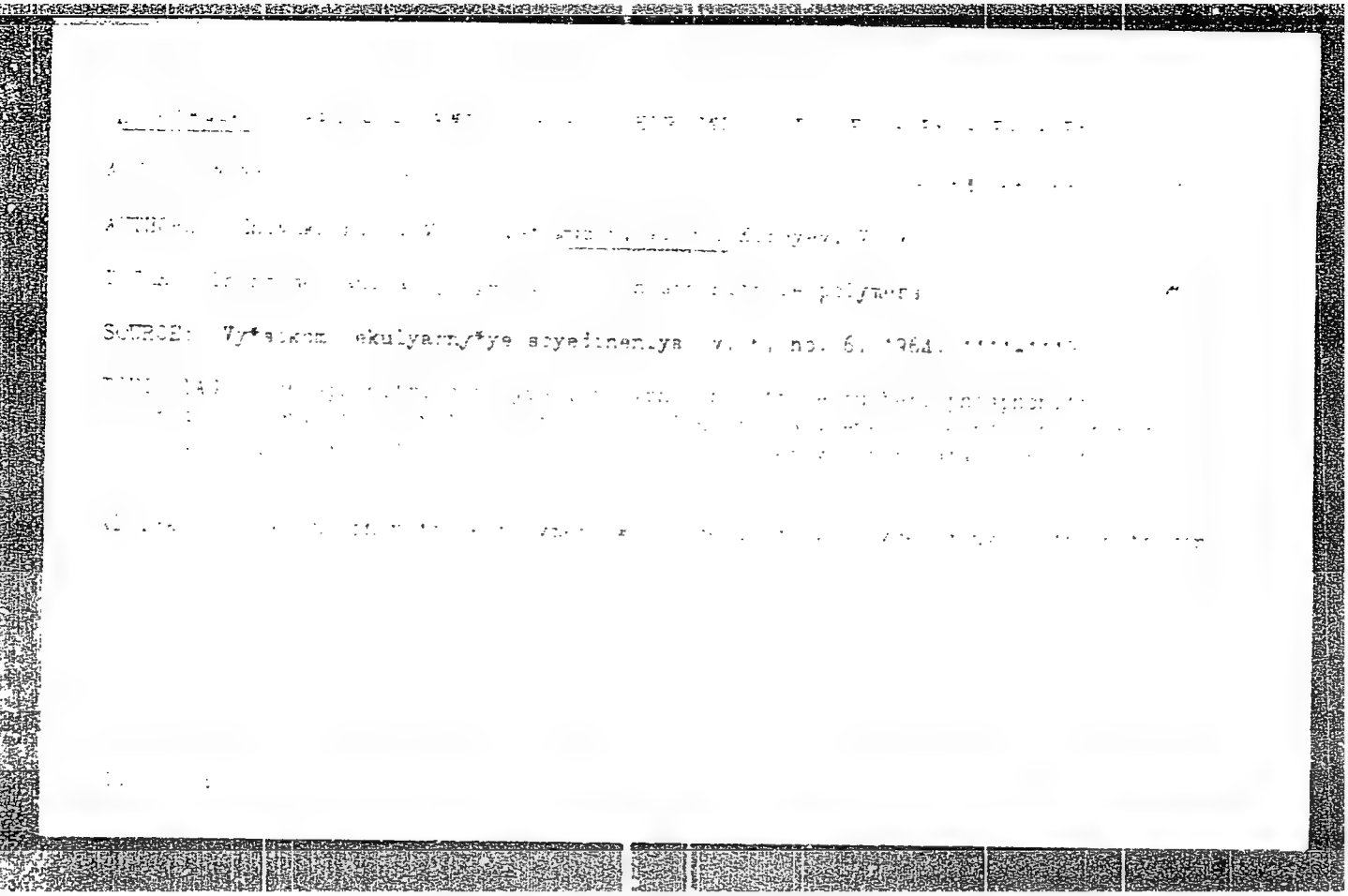
There are 4 figures, 2 tables, and 5 references: 2 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: H. N. Stokes, Am. Chem. J., 19, 782 (1897). N. L. Paddock, Brit. Plast., 31, no. 11, 473, 494 (1958).

Fig. 2. Flow chart for phosphorus nitryl chloride production (production and separation of polymer homologs).
Legend: (a) vapor; (b) vacuum; (c) brine; (d) nitrogen; (e) water; (f) HCl; (g) trimer for purification; (h) Fig. 3; (i) chlorobenzene; (k) quinoline; (l) petroleum ether; (m) oil.
Fig. 3. Purification of the oily liquid.
Legend: (a) of 12 and 16, Fig. 2; (b) petroleum ether; (c) benzene; (d) solvent for rectification; (e) vapor; (f) vacuum; (g) oil.

Card 4/4

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.

Production and uses of phosphonitrile chlorides and their derivatives. Plast.massy no.5:24-27 '63. (MIRA 16:6)
(Phosphonitrile chloride)



SOURCE: Vy*sshem ekulyarny*ye soyedinen.ya v. ., no. 6, 1964. ....

L 10789-65
ACCESSION NR: AP4040491

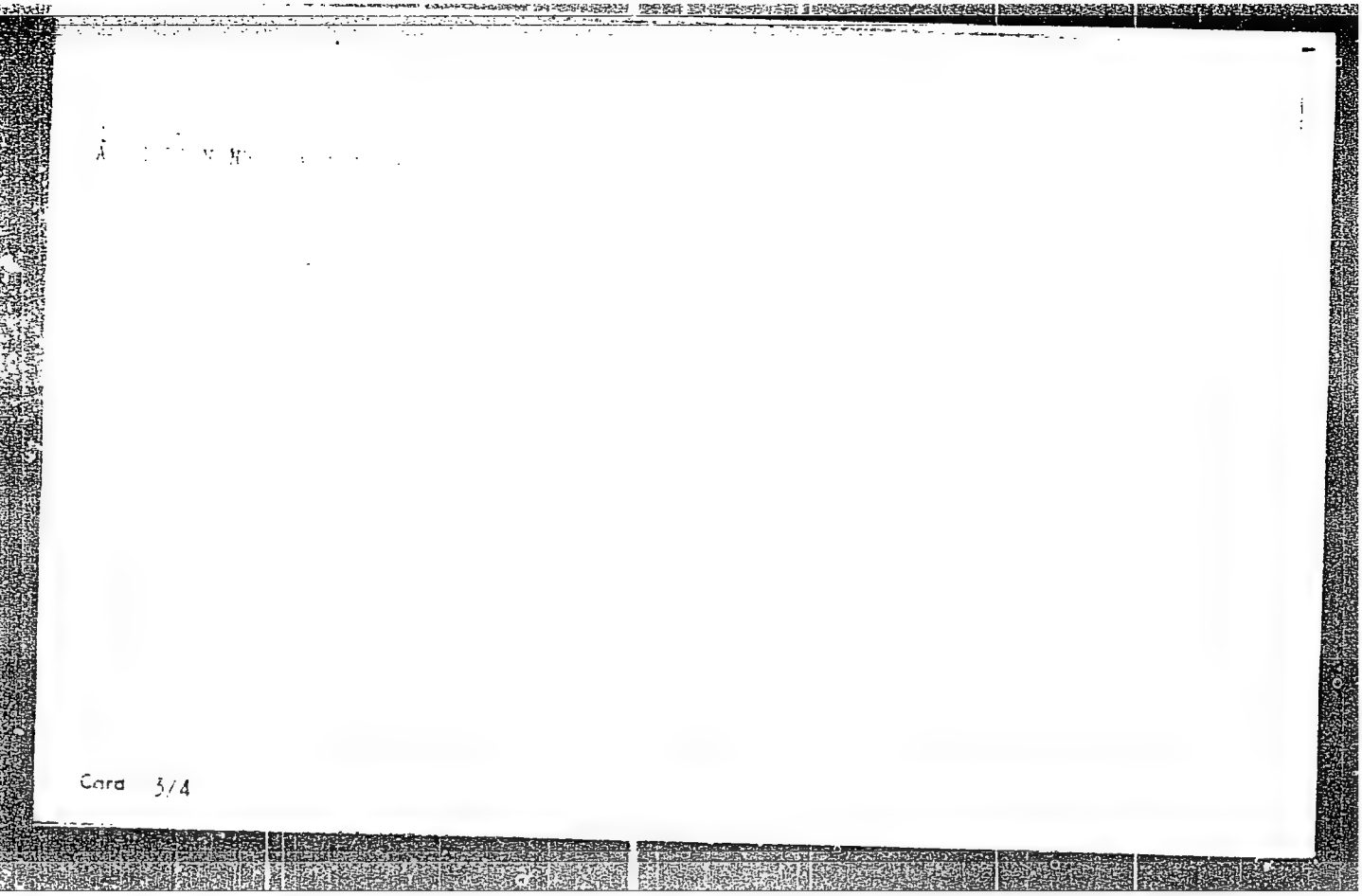
4

-80C, the region of [illegible]

[illegible] oxygen produced structurated rubbers analogous in properties to organic rubber[illegible]

The structurated character of these polymers was further confirmed by their swelling [illegible]

Card 2/3



Cara 3/4

L 10738-65
ACCESSION NR: AP5004049

ENCLOSURE: 01

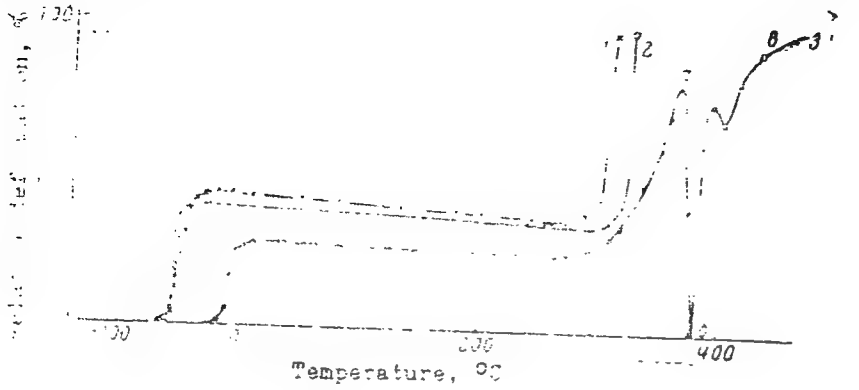


Fig. 1. Thermogram of [illegible] chloride [illegible] chloride in sealed ampules

1, 2 – in an atmosphere of [illegible]

ACCESSION NR: AP4046897 S/0191/64/000/010/0019/0021

AUTHOR: Zhivukhin, S. M.; Tolstoguzov, V. B.; Kireyev, V. V.; A lova, N. V.; Gerasimenko, L. T.; Yakobson, F. I.

TITLE: Thermal stability of poly /dihydroxyarylenephosphonitriles/

SOURCE: Plasticheskiye massy, no. 10 1964, 9-2[illegible]

TOPIC TAGS: thermal stability, polymer, thermal degradation, [illegible] hydroquinone, hexahydroxydiphosphonitrile, oxidative degradation, polycondensation, transesterification

ABSTRACT: The authors [illegible]

L 12635-65 [illegible]

ACCESSION NR: AP4046897

residues; polymers prepared with resorcinol also showed somewhat higher stability than those containing hydroquinone. The infrared spectra of the degradation products were characterized by increased absorption in the 940-990 cm^{-1} band. Polymers containing resorcinol and hydroquinone both showed exothermic peaks at 550C, due to destruction of the P-[illegible] bond, [illegible] those based on [illegible] [illegible] [illegible] position of the aliphatic radical. The poly [dihydroxyarylenephosphonitriles] are recommended for use as [illegible] materials, and for short-term use at 450-500C as [illegible] of insulating [illegible]. Orig. art. has: 5 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 003

Cord 2/2

L 15324-66 EWT(m)/EWP(i)/T WW/RM

ACC NR: AP6000993 (A) SOURCE CODE: UR/0286/65/000/022/0061/0061

AUTHORS: Zhivukhin, S. M.; Kireyev, V. V.; Tolstoguzov, V. B.

ORG: none

TITLE: A method for obtaining phosphonitrile polymers. Class 39, No. 176420

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 61

TOPIC TAGS: polymer, polycondensation, organic phosphorus compound, phosphonitrile

ABSTRACT: This Author Certificate presents a method for obtaining phosphonitrile polymers by thermal condensation of phosphonitrile chlorides with dihydroxyphenols. To decrease the condensation temperature, the phenols are used in the form of their alkali metal salts. The condensation is carried out at temperatures not exceeding 150C.

SUB CODE: 07/11/ SUBM DATE: 11Jan63

Card 1/1 BC

UDC: 678.85.745.3

L 15342-66 EWI(m)/EWP(v)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6000996 (A) SOURCE CODE: UR/0286/65/000/022/0062/0062

AUTHORS: Zhivukhin, S. M.; Kireyev, V. V.; Tolstoguzov, V. B.

ORG: none

TITLE: A method for obtaining phosphonitrile polymers. 744,55 Class 39, No. 176423

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 62

TOPIC TAGS: polymer, resin, phosphonitrile, organic phosphorus compound

ABSTRACT: This Author Certificate presents a method for obtaining phosphonitrile polymers by partial or complete hydrolysis and (or) alcoholysis of chloro-derivatives of phosphonitrile polymers. To obtain polymers of high thermostability, fire resistance, and adhesive properties, the polymer used consists of alternating phosphonitrile and oxyaromatic members. The obtained polymers are suitable for use as lacquer finishing and binder for fiber glass plastics.

SUB CODE: 07/11/ SUBM DATE: 21Jan63

QC

Card 1/1

UDC: 678.85.745.3:66.093.8

L 37644-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6011238 (A) SOURCE CODE: UR/0413/66/000/006/0076/0076

INVENTOR: Zhivukhin, S. M.; Tolstoguzov, V. B.; Kireyev, V. V. 33 B

ORG: none

TITLE: Preparation of phosphorus-containing polyesters. Class 39, No. 179928

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 76

TOPIC TAGS: polyester, phosphorus containing polymer, transesterification ESTERIFICATION, PHOSPHORUS, PHOSPHATE, GLYCOL

ABSTRACT: This Author Certificate introduces a method for preparing phosphorus-containing polyesters by transesterification of phosphates with glycols. To extend the variety of fire-resistant modified additives, alkoxyphosphonitrilates and/or alkoxyphosphonitrile chlorides are suggested as the phosphates. [LD]

SUB CODE: 11/ SUBM DATE: 11Jan63/

Card 1/1 vmb UDC: 678.745.3.73

L 9[illegible] EWP(m)/EWP(v)/EWP(j)/T/ETC(m) WW/RM

ACC NR: AP6000974 SOURCE CODE: UR/0286/65/000/022/0057/0057

INVENTOR: Zhivukhin, S. M.; Tolstoguzov, V. B.; Kireyev, V. V.

ORG: none

TITLE: Method for preparing resins. Class 39, No. 176392

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 57

TOPIC TAGS: phosphorus, resin, polymer, epoxy plastic, fire resistant material, thermal stability, lacquer, glass, reinforced plastic, solid mechanical property, specialized coating

ABSTRACT: An Author Certificate has been issued for a preparative method for resins involving phosphorus-containing polymers and epoxy resins with heating. To obtain polymers with good adhesive and mechanical properties, fire resistance, and thermal stability, polymers consisting of alternating phosphonitrile and hydroxyaromatic structures (polydihydroxyarylenephosphonitrilates) [sic] were used as the phosphorus-containing components. The amount of epoxy resin used does not exceed 50%. The resins obtained are designed for use in lacquer coatings and in glass-reinforced plastics. [BN]

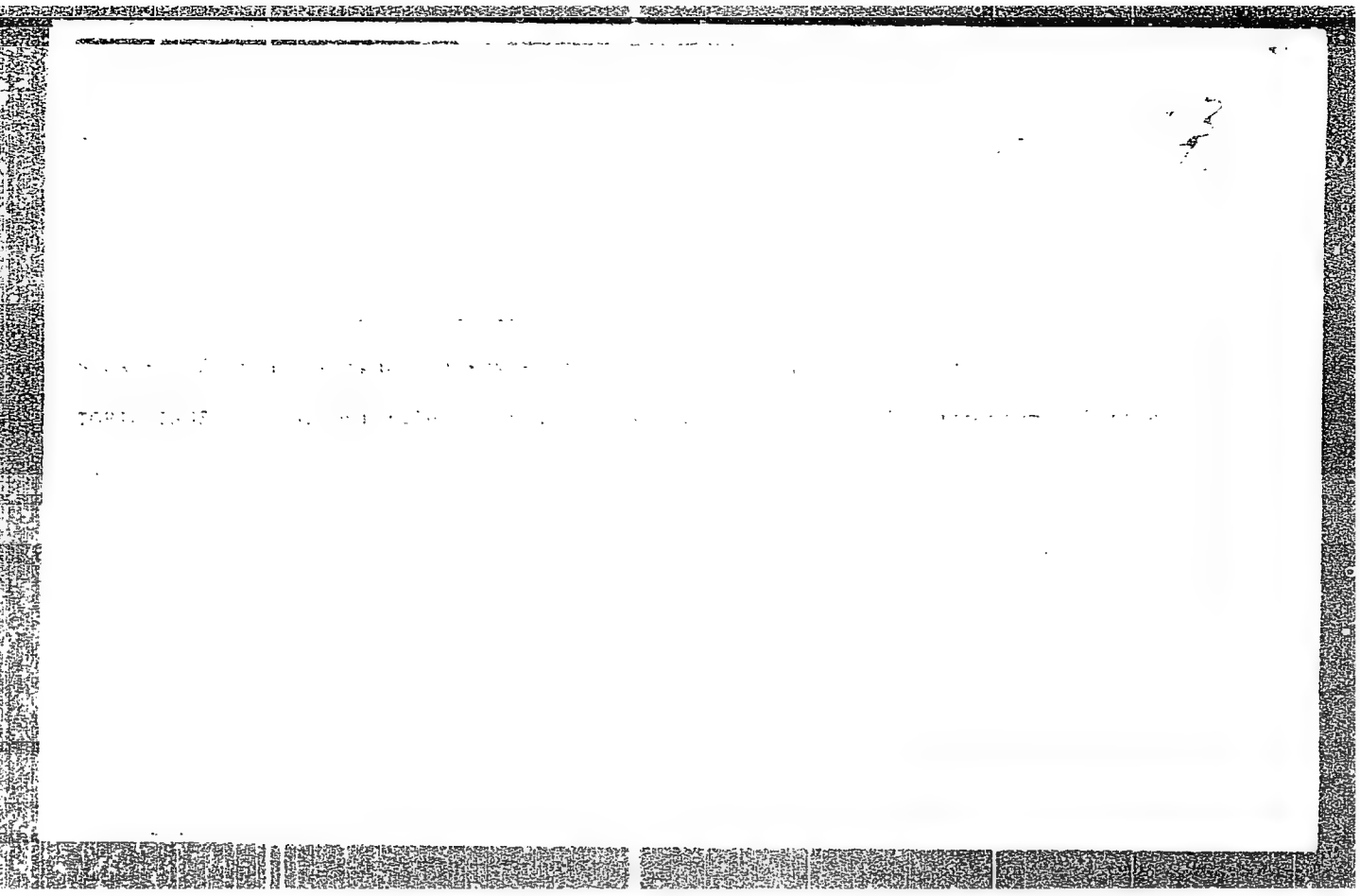
SUB CODE: 11,07 / SUBM DATE: 21Jan63/ ATD PRESS: 4157

UDC: 547.914:
678.643'42'5
678.85

Card 1/1

ZHIVUKHIN, S.M.; TOLSTOGUZOV, V.B.; LUKASHEVSKI, Z.

Reaction of trimeric phosphonitrile chloride with alcohols and alcoholates. Zhur. neorg. khim. 10 no.7:1653-1656 Jl '65. (MIRA 18:8)



AUTHOR Tolstoguzov, V. B.; Pisarenko, V. V.; Kireyev, V. V.

TITLE: (Phenoxy)triphosphonitrile chlorides

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 3, 1965, 712-714

TOPIC TAGS: (phenoxy)triphosphonitrile chloride synthesis, (phenoxy)triphosphonitrile chloride property

ABSTRACT: Mono-, bis-, tris- and tetrakis(phenoxy)triphosphonitrile chlorides,

NO REF SOV: 001 OTHER: 008 ATD PRESS: 3220

Card

ACC NR: AP6012719 (A) SOURCE CODE: UR/0190/66/008/004/0727/0731

15
B

AUTHOR: Zhivukhin, S. M.; Tolstoguzov, V. B.; Yakobson, F. I.

ORG: Moscow Institute of Chemical Technology im. D. I. Mendeleyev (Moskovskiy khimiko-tekhnologicheskiy institut)

TITLE: Synthesis of polydioxyarylenephosphonitrilates

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 4, 1966, 727-731

TOPIC TAGS: phosphonitrilate, esterification, polyesterification

ABSTRACT: Polyester exchange reaction of hexabutoxytriphosphonitrilate with diatomic phenols was carried out at the molar component ratio from 1 : 1 to 1 : 1.5. The rate of polyester exchange depends on the concentration of the reaction mixture and on the type of diatomic phenol. Resorsinol is somewhat more active in polyester exchange. In the case of hydroquinone, products with higher substitution but lower molecular weight are formed. Products which have a molecular weight of 3000 to 10,000 are easily soluble in alcohols and ketones and partially soluble in aromatic and aliphatic solvents. Orig. art. has: 5 figures and 2 tables. [Based on authors' abstract] [NT]

SUB CODE: 11, 07/ SUBM DATE: 09May65/ ORIG REF: 003/ OTH REF: 003

Card 1/1 UDC: 541.64+678.86

TOLSTOKOROVA, N.M.

First results of the work of obstetricians in examining rooms. Ped., akush. i gin. 19 no.6:64 '57. (MIRA 13:1)

1. Zhenskaya konsul'tatsiya (zav. - N.M. Tolstokorova) poliklinicheskogo otdela (zav. - Z.M. Novikova) bol'nitsy Stalinskogo rayona g. Kiyeva.

(MEDICAL SCREENING) (TUMORS)

E

COUNTRY : USSR
CATEGORY :
ABS. JOUR. : RZhBiol., No. 1959, No. 9871
AUTHOR : Drozhevkina, M.S., Tolstokorova, V.I.
INST. : Rostov-on-the-Don Scientific Research Plague Institute
TITLE : The Isolation of Brucella Bacteriophage From Aborted Fetuses of Domestic Animals
ORIG. PUB. : Tr. Rostovsk.-n/D. n.-i. protivochumn. in-ta, 1957, 12, 424-427
ABSTRACT : From the blood of the gastric contents, spleen and other internal organs of aborted fetuses of sheep bacteriophages were isolated capable of lysing Brucella melitensis and B. abortus. The phages were isolated both from the organs of the fetuses, from which brucella cultures were obtained, and from the organs of the fetuses, from which no brucellae were isolated. The phages could also be isolated from the material taken from cows which had aborted. The phage titers increased to 10^{-7} - 10^{-10}

Card: 1/2

2

COUNTRY :
CATEGORY :

E

BS. JOUR. : RZhBiol., No. 1959, No. 9871

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : over the course of 1-5 passages. The isolated phages lysed the brucellae well on solid medium and practically did not lyse them on liquid medium. The presence of brucella phage in almost all of the fetuses investigated has a negative influence on the results of bacteriological examination of them; therefore, it has been suggested that specific phage antiserum be used in such examinations. -- Ya. I. Rautenshteyn

Card: 2/2

TOLSTOLUTSKIY,G., kontr-admiral.

The radio cabin of the cruiser "Avrora." Radio no.11:7 N'55.
(Radio--Installation on ships) (MLRA 9:1)

TOLSTOLUTSKIY, G., kontr-admiral

Naval radio communications. Radio no.7:6-7 Jl '62.
(MIRA 16:6)

(Radio—Installation on ships)
(Ships—Electronic equipment)

L 45233-66 Ed.(d)/ESS-2
ACC NR: AN6023228 SOURCE CODE: UR/9008/66/000/172/00002/00003

AUTHOR: Tolstolutskiy, G. (Rear Admiral)

ORG: none

TITLE: Electronic nerve of the Navy (Navy communication facilities)

SOURCE: Krasnaya zvezda, 27 Jul 66, p. 2, col. 4-7, p. 3, col. 1-4

TOPIC TAGS: naval equipment communication equipment, communication coding, communication system

ABSTRACT: The author emphasizes the importance of perfect communication systems for the Armed Forces in the present era of modern warfare and discusses the tendency to unification of systems. The specific requirements of the different branches make it necessary, however to provide each branch of services with its own specific facilities. It is suggested that up-to-date communication systems of the Navy should possess the following qualifications: 1) high viability and the capacity to withstand the effects of thermonuclear missiles; 2) the capacity of receiving and transmitting a large volume of information in a short time; 3) the capacity to

Card 1/2

L 45233-66

ACC NR: AN6023228 O

perform secret "ship-to-shore" transmissions; 4) high noise immunity guaranteeing the correct reception of information; 5) continuous communication with submarines; 6) predominance of telecode information in the operation of weapons and computers. Moreover, the technique of automatic communication security has facilitated contacts between senior and subordinate commanders reducing the time consumed for this purpose by factors of several tens or even several hundreds. As a result, the personal influence of the senior commander in the course of operations is greatly enhanced. [DW]

SUB CODE: 09, 15/ SUBM DATE: none/

Card 2/2 LC

TOLSTOLUTSKIY, G.G., vitse-admiral

Use of communications and the commander. Mor. sbor. 48 no.7:28-34 Jl '65. (MIRA 18:8)

TOLSTOLUTSKIY, G.G., vitse-admiral

Communications, information, and automatic control in the command of the armed forces. Mor.sbor. 46 no.5:14-22 My '63. (MIRA 16:4)

(Russia--Navy--Organization) (Automatic control)

USSR/ Miscellaneous - Propaganda

Card 1/1 Pub. 89 - 2/21

Authors : Tolstolutskiy, G., Capt.

Title : Radio operators of the Soviet Navy

Periodical : Radio 7, 4 - 5, Jul 1955

Abstract : Political speech made during Navy Day in the USSR praises the radio operators of the Soviet Navy for their devotion to duty and their importance during peace or war in the service of the motherland.

Institution : .....

Submitted : .....

FAVORSKAYA, T. A.; TOLSTIKOV, G. A.

Synthesis of substituted 4-hydroxy-3-oxytetrahydrofurans. [illegible]. Zh. ob. Khim. 34 no.[illegible] Je '64. (MIRA 17:7)

1. Leningradskiy gosudarstvennyy universitet.

ACCESSION NR: AP4012518 S/0056/64/046/001/0018/0027

AUTHORS: Naberezhny*kh, V. P.; Tolstoluzhskiy, V. P.

TITLE: Concerning the Fermi surface of aluminum

SOURCE: Zhurnal eksper. i teoret. fiz., v. 46, no. 1, 1964, 18-27

TOPIC TAGS: aluminum, aluminum Fermi surface, aluminum majority carriers, cyclotron resonance, effective mass anisotropy, Fermi surface topology, Fermi hole surface, pocket of holes model, deHaas vanAlphen effect

ABSTRACT: The effective-mass anisotropy of the majority carriers in aluminum is derived from a study of cyclotron resonance in the three principal crystallographic planes. To obtain a more reliable interpretation of the experimental effective masses, a detailed electronic-computer calculation was made of all possible resonance orbits using the model of "nearly free electrons." Most of the experimentally observed effective masses can be identified with the calculated masses for various orbits, thus offering good confirmation of many topological properties of the Fermi surface. The anisotropy of the

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ACCESSION NR: AP4012518

experimental cross section areas measurable from the deHaas-van Alphen effect was also calculated and it is concluded that cyclotron resonance can sometimes yield more information than the deHaas-vanAlphen effect. "The authors wish to thank Corresponding Member of AN UkrSSR A. A. Galkin for his continuous interest, as well as M. K. Gol'dberg, A. I. Kononenko, E. M. Lifshits, and V. D. Mil'man of the Division of Functional Analysis and Computation Mathematics of the Fiziko-tekhnicheskiy institut nizkikh temperatur (Physicotechnical Institute of Low Temperatures) AN UkrSSR for compiling the algorithm and programming the problem. Orig. art. has: 8 figures and 4 formulas.

ASSOCIATION: Fizikotekhnicheskiy institut nizkikh temperature AN UkrSSR (Physicotechnical Institute of Low Temperatures, AN UkrSSR)

SUBMITTED: 22May63 DATE ACQ: 26Feb64 ENCL: 00

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Card 2/2

1. TOLSTONOG, Ya.

2. USSR (600)

4. Horse Racing--Tashkent

7. Major racing trials. Konevodstvo 23 no. 1 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. TOLSTONOG, YA.

2. USSR (600)

4. Tashkent--Horse Racing

7. Major racing trials, Konevodstvo, 23, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

FROLOV, V.; SYUL'ZYAKOV, T. (selo Styukhino, Pokhvistnevskogo rayona, Kuybyshevskoy obl.); TOLSTONOG, Ya., inzh.-ekonomist

Readers' letters. Sel'. stroi. 16 no.1:29-30 Ja '62. (MIRA 16:1)

1. Glavnyy mekhanik Soveta Kurganskoy oblastnoy mezhkolkhoznoy stroitel'noy organizatsii (for Frolov).

(Construction industry)

TOLSTONOG, Ya., inzhener-ekonomist

The virgin lands of Fergana. Sel'.stroi. 16 no.5:29 My '61.
(MIRA 14:6)

1. Institut Uzgiprosel'elektro.
(Fergana--Construction industry)

TOLSTONOG, Ya., inzhener-ekonomist

Interdistrict combines producing construction articles. Sel'. stroi. 16 no.9:30 S '61. (MIRA 14:9)
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VERNIKOVSKIY, Yu., kand.tekhn.nauk; TOLSTONOG, Ya., inzhener-ekonomist; MIKHAYLOV, I.; NATAROV, V., inzhener-stroitel'

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(Building—Technological innovations)

MUKHANOV, F.; SINTSOV, V.; MEUKH, M.; TOLSTONOG, Ya., inzhener-ekonomist

Readers' letters. Sel'. stroi. 17 no.4:28 Ap '63.
(MIRA 16:7)

1. Starshiy inzhener tresta Orgsovkhozstroy (for Mukhanov).
2. Instruktor sel'skokhozyaystvennogo otdela Sverdlovskogo oblastnogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Sintsov). 3. Predsedatel' Talitskoy mezhkolkhoznoy stroitel'noy organizatsii Sverdlovskoy oblasti (for Meukh).
(Building—Technological innovations)

TOLSTONOG, Ya.K., inzhener.

Damage done by lack of organization work. Izobr. v SSSR 2 no.4:41 Ap '57. (MLRA 10:6)
(Inventions) (Industrial management)

TOLSTONOG, Ya.S.

At the Almalyk lead smelting works. Izobr.v SSSR 2 no.11:51-52 N '57. (MIRA 10:10)
(Uzbekistan--Lead industry)

ACC NR: AR6034723 SOURCE CODE: UR/0124/66/000/008/A016/A016

AUTHOR: Tolstonogov, A. A.

TITLE: Synthesis of an exponentially stable optical system

SOURCE: Ref. zh. Mekhanika, Abs. 8A123

REF SOURCE: Tr. Kazansk. aviats. in-ta, vyp. 87, 1965, 181-186

TOPIC TAGS: dynamic programming, optics, optic system, stable optic system, exponentially stable optic system, phase space, phase coordinate, self conjugating operator, programming

ABSTRACT: An analysis is made of the problem of the analytical design of optimum regulations with restraints on the phase coordinates. Two points $x(t_0)=x_0,\ x_1(\infty)=0.$ are given in the phase space X. It is necessary to determine the control which transforms to a minimum

$$I=\frac{1}{2}\int_0^\infty [(Cx, x)+(Du, u)]\,dt$$

where C and D are self-adjoint positive definite operators (n x n) and (m x m),

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respectively, from all the possible controls transferring the point from x_0 to x_1, under the condition

$$g(x, t) \approx \frac{1}{2}(Gx, x) - \frac{1}{2}(Gx_0, x_0)\, e^{-\alpha(t-t_0)} = 0$$

where G is a self-adjoint positive definite operator (n x n), α is a real number, and t_0 is the initial instant in time. [Translation of abstract] [SP]

SUB CODE: 12/

Card 2/2

LYSOV, A.G.; TOLSTONOGOV, G.Kh.

Pneumatic press. Mashinostroitel' no.7:24 Jl '64.
(MIRA 17:8)

T. LSTONOGOV, N.A. Maikop; perspektivy razvitiia Kubano-Chernomorskogo neftianogo raiona. [Moskva], Gos. nauchn.-tekhn. neftianoe izd-vo, 1932. 97 .
DLC: HD9576.R83K3

SO: LC, Soviet Geography, Part II, 1951, Unclassified

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SO: LC, Soviet Geography, Part I, 1951, Uncl.

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SO: LC, Soviet Geography, Part I, 1951, Uncl.

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SO: LC, Soviet Geography, Part II, 1951/Unclassified.